

AMENDMENTS TO THE CLAIMS:

This listing of claims replaces all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Claims 1 to 7 (Cancelled)

8. (Currently Amended) A method of fabricating a barrier layer, the method comprising:
oxidizing a silicon-containing substrate to form a substrate oxide layer on the surface of the substrate;

producing an oxygen-impervious layer at an interface between the substrate oxide layer and the substrate; ~~and~~

etching the substrate oxide layer until the underlying oxygen-impervious layer is uncovered;

depositing a metal layer on a surface of the oxygen-impervious layer; and

thermally oxidizing the metal layer;

wherein the oxygen-impervious layer forms a barrier to the formation of metal silicide compounds between the deposited metal layer and the substrate.

9. (Cancelled)

10. (Previously Presented) The method of claim 8, further comprising:
providing the oxygen-impervious layer by exposing the substrate oxide layer to a nitrogen-based gas, the oxygen impervious layer comprising a substrate-nitrogen compound.

11. (Previously Presented) The method of claim 10, further comprising:
selecting the nitrogen-based gas from the group consisting of a N₂ gas, an N₂O gas, an NO gas and an NH₃ gas.

12. (Previously Presented) The method of claim 10, further comprising:

selecting the substrate-nitrogen compound to include a silicon nitride.

13. (Previously Presented) The method of claim 10, further comprising:
selecting the substrate-nitrogen compound to include silicon oxynitride.

14. (Previously Presented) The method of claim 10, further comprising:
etching the substrate oxide layer in a wet-chemical etching process.

15. (Previously Presented) The method of claim 10, further comprising:
etching the substrate oxide layer in a dry etching process.

16. (Withdrawn) A method of fabricating a barrier layer, the method comprising
implanting nitrogen ions into a silicon-containing substrate;
oxidizing the substrate to form a substrate oxide layer and an oxygen-impervious layer,
the oxygen impervious layer comprising a substrate-nitrogen compound; and
etching the substrate oxide layer until the underlying oxygen-impervious layer is
uncovered.

17. (Withdrawn) The method of claim 16, further comprising:
selecting the substrate-nitrogen compound to include a silicon nitride.

18. (Withdrawn) The method of claim 16, further comprising:
selecting the substrate-nitrogen compound to include silicon oxynitride.

19. (Withdrawn) the method of claim 16, further comprising:
depositing a metal layer on a surface of the oxygen-impervious layer; and
thermally oxidizing the metal layer;
wherein the oxygen-impervious layer forms a barrier to the formation of metal silicide
compounds between the deposited metal and the substrate. --